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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,823	03/31/2004	Rajib Datta	128502-1/YOD GERD:0115	5080
7590 Patrick S. Yoder FLETCHER YODER P.O. Box 692289 Houston, TX 77269-2289			EXAMINER KAPLAN, HAL IRA	
			ART UNIT 2836	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE		DELIVERY MODE
3 MONTHS		03/27/2007		PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

✓ A E

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/813,823	DATTA, RAJIB	
	<b>Examiner</b>	<b>Art Unit</b>	
	Hal I. Kaplan	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-14 and 16-18 is/are allowed.
- 6) ☒ Claim(s) 1, 10, 11, 19, 24 and 25 is/are rejected.
- 7) ☒ Claim(s) 2-9, 15, 20-23 and 26 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/31/04</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities: Paragraph 18, line 4 contains the phrase "converter is". It appears this should be "converters are". Paragraph 21, lines 4-5 should be deleted as they repeat lines 2-3. Paragraph 26, line 5 contains the phrase "using single-pole double, throw-switch". It appears this should be "using a single-pole double-throw switch". Paragraph 27, line 2 contains the phrase "converter is". It appears this should be "converters are". Paragraph 30, line 7 contains the phrase "coupled the fault winding 42 to the normal". It appears this should be "coupled to the fault winding 42 of the primary". Paragraph 31, line 5 contains the phrase "diodes 80". It appears this should be "diodes 60". Paragraph 31, line 9 contains the phrase "the output ... is rectified and dc-link capacitors 62, 64 and 66". This is unclear to the Examiner because the sentence is incomplete. It is not clear what Applicant is trying to say about the capacitors.

Paragraph 31, line 11 contains the phrase "thyristors and silicon". It appears this should be "thyristors or silicon". Paragraph 32, line 2 contains the phrase "capacitors 62, 64 and 66". It appears this should be "capacitors 62 and 64", as only the first and second converters are referred to. Paragraph 32, line 6 contains the phrase "state and while another". It appears this should be "state while the other". Paragraph 32, line 9 contains the phrase "switch is". It appears this should be "switches are". Paragraph 32, line 10 contains the phrase "insulated gate controlled thyristors (IGCTs), etc". It

appears this should be "or insulated gate controlled thyristors (IGCTs)". Paragraph 45, line 4 contains the word "converter". It appears this should be "converters".

Appropriate correction is required.

2. The specification is objected to under 37 CFR 1.71(a) because it is not sufficiently enabling.

Paragraph 38, lines 2, 4, and 6; paragraph 39, line 2; and paragraph 41, lines 7 and 12 refer to voltages and currents in units of "pu". The specification does not define "pu", one of ordinary skill in the art would not know what "pu" means, and both voltages and currents are measured in "pu" although they are different quantities.

### ***Drawings***

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the gas turbine of claims 15, 23, and 26 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

4. Claims 1, 15, 20, 23, and 26 are objected to because of the following informalities: Claim 1 line 6, the phrase "the fault mode" lacks proper antecedent basis. Claim 15, line 1 contains the phrase "the third converter". It appears this should be "wherein the third converter". Claim 20 line 2, the phrase "the first mode" lacks proper antecedent basis. Claim 20 line 4, the phrase "the second mode" lacks proper antecedent basis. It appears that claims 20 and 21 should depend from claim 19 instead of claim 18. Claim 15, line 2; claim 23, line 2; and claim 26, line 2 contain the phrase "gas turbine". It appears this should be "gas turbine.". Appropriate correction is required.

5. Claim 20 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 20 depends from claim 18, which depends from claim 12. Claim 12, lines 9-12 recite all of the features of

Art Unit: 2836

claim 20; thus, claim 20 fails to further limit claim 18. However, as set forth above, it appears that claims 20 and 21 were intended to depend from claim 19.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 11 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. The phrase "current control mode" in claim 11 renders the claim indefinite. The phrase "current control mode" is not defined by the claim or the specification, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention because it is not clear what is meant by a "current control mode".

9. Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential cooperative relationships, such omission amounting to a gap between the necessary connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the relationship between the sensing and coupling steps.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1, 10, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by the US patent of Genuit et al. (3,846,695).

As to claim 1, Genuit, drawn to a series-parallel dual switching regulator for use with a variety of line voltages, discloses a power system for supplying power to a load, comprising: a converter system comprising a first converter (13a) and a second converter (13b), wherein the converter system is configured for operating in a first mode and a second mode; wherein the first converter (13a) and the second converter (13b) are configured to be coupled in series during the first mode, and in parallel when operating in the second mode (see column 7, lines 3-37; column 8, lines 34-67; and Figure 4).

As to claim 10, the first converter (13a) and the second converter (13b) each comprise a rating of approximately half a nominal power rating of the power system (see column 7, lines 33-37).

As to claim 19, Genuit discloses sensing an electrical parameter (input voltage), and coupling a first converter (13a) and a second converter (13b) in series during a normal mode and in parallel during a second mode (see column 7, lines 38-42).

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2836

13. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Genuit in view of the US patent of Kammeter (5,343,080).

As to claim 24, Genuit discloses applying power to a load via first and second converters (13a,13b) electrically coupled in series with one another; sensing an electrical parameter (input voltage); generating a control signal based on the sensed electrical parameter (input voltage); and applying the control signal to a switching circuit (4a,4b,8a-c,9b,9c) configured to switch the first and second converters (13a,13b) to an electrically parallel configuration, as set forth above. Genuit does not disclose (a) the load being a transformer, or (b) canceling harmonic currents in the output of the transformer.

Kammeter, drawn to a harmonic cancellation system, discloses a system comprising a transformer (1) and circuitry for canceling harmonic currents in the output of the transformer (1) (see column 2, lines 41-43; column 5, lines 4-9; and Figure 1). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have used the regulator system of Genuit to supply power to the system of



Art Unit: 2836

Kammeter, because the system of Kammeter is capable of being connected an any power source, including a regulator (see column 2, lines 59-65).

15. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Genuit in view of the conference paper by Jouko Niiranen, "Voltage Dip Ride Through of a Doubly-Fed Generator Equipped With An Active Crowbar", Nordic Wind Power Conference, Chalmers University of Technology, 1-2 March 2004 (Niiranen).

As to claim 25, Genuit discloses all of the claimed features, as set forth above, except for the claimed prime mover in a wind turbine. Niiranen discloses the use of a two-converter system to provide a torque for controlled motion of a prime mover in a wind turbine (see column 1, lines 13-26). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have used the system of Genuit to provide a torque for controlled motion of a prime mover in a wind turbine, because the system of Genuit is smaller and more efficient than prior power supply systems, and the invention is the power converter system, so the specific load with which it is used does not carry patentable weight.

***Allowable Subject Matter***

16. Claims 12-14 and 16-18 allowed.

17. Claims 2-9, 15, 20-23, and 26 are objected to as being dependent upon a rejected base claim or due to informalities, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and all of the informalities were corrected.

Art Unit: 2836

18. The following is a statement of reasons for the indication of allowable subject matter:

Claims 2-9 contain allowable subject matter because none of the prior art of record discloses or suggests the claimed fault winding, or a transformer having a primary winding comprising a second winding which can be selectively coupled to the first winding, in combination with the remaining claimed features.

Claims 15 and 26 contain allowable subject matter because none of the prior art of record discloses or suggests the claimed gas turbine, in combination with the remaining claimed features.

Claims 20-23 contain allowable subject matter because they depend from allowed claim 18.

19. The following is an examiner's statement of reasons for allowance:

Claims 12-14 and 16-18 are allowed because none of the prior art of record discloses or suggests the claimed fault winding, or a transformer having a primary winding comprising a second winding which can be selectively coupled to the first winding, in combination with the remaining claimed features.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hal I. Kaplan whose telephone number is 571-272-8587. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 571-272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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